

# **Distribution and Status**

# TEN YEARS OF SWAN COUNTS IN JAPAN

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## Introduction

The Environment Agency has made an annual census of waterbirds in the middle of January since 1970 to learn about their wintering conditions in Japan. This census is mainly conducted by the prefectural governments of Japan under the supervision of the Environment Agency.

This census may not cover all the wintering populations of swans in our country, because their habitats range from rivers and lakes to harbours and far out on the sea and if they winter in small numbers some may be overlooked. However, the findings of the census are fairly reliable.

## Results

1. The number of wintering places in the country has varied through the years: 82 at the fewest, 154 at the most and 124 average. The total number of swans has been: 11 477 minimum, 16 067 maximum and 13 467 average.
2. The second degree curve of the population trend during these ten years is:  $P = 14400.9 + 103.976t - 28.3134t^2$ . (The starting point lies midway between 1974 and 1975 and the interval of each year is  $t = 2$ ).
3. The coefficient of correlation of the number of swans and the number of their wintering places is: 0.83 and its regression line is:  $Y = 6858.4 + 50.7345x$ .
4. 96% of *Cygnus cygnus cygnus* winter in the following five prefectures: Hokkaido 53%, Aomori 18%, Miyagi 13%, Niigata 7% and Yamagata 5%.
5. 91% of *Cygnus columbianus bewickii* winter in the following five prefectures: Fukushima 33%, Shimane 23%, Miyagi 20%, Niigata 9% and Akita 6%.

From these findings of the census a few comments are possible. First of all, there is no indication that the population has increased or decreased in the past ten years. Second, the high correlation between the total number of swans and the number of their wintering places indicates that the populations in the main wintering places have come up to a very reasonable size. Third, the wintering places of *C. c. cygnus* are located somewhat north of those of *C. c. bewickii*.

## Summary

The paper reviews the results of swan counts in Japan over ten years and shows that numbers have remained high.

## Editorial note

Preliminary data for the national census of 13 January 1980, presented to the Symposium, gave 6797 *C. c. cygnus* and 1954 *C. c. bewickii*. A count of Hokkaido alone on 10 February 1980 gave 5129 *C. c. cygnus*, including 157 on Lake Utonai and 3520 on Notsuke Bay, which were to be visited on the excursions.

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## PRESENT STATUS OF THE SWANS WINTERING IN KOREA AND THEIR CONSERVATION

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### Introduction

Three species of swan migrate to Korea. They are *Cygnus cygnus cygnus*, *Cygnus columbianus bewickii* and *Cygnus olor*. The last is a rare winter visitor.

Before World War II, flocks of thousands of swans would winter in Korea and form magnificent spectacles. In early winter, they would arrive in large groups at ponds, lakes and reservoirs on the eastern and the western seashores in the north. When it became colder, they would move down to the south and winter on ponds and wetlands in Geongsang-namdo. Some would move further down to the southern islands, such as Jindo, when waters froze in the rest of the Korean peninsula. Thus, in the south swans began to appear in late October and would stay until they flew northward in late February and early March.

Before World War II, there were many abandoned wetlands which attracted swans in Korea. Among them, Hyopcheon and Changnyong inland areas and Jindo seashore areas were designated and preserved as Natural Monuments, on Professor Tamezo Mori's proposal, from 1934 to 1945. Since then, the wetlands and marshes in these areas have become farm fields. Accordingly, Hyopcheon and Changnyong were released from being Natural Monuments in 1973, and before long Jindo will face a similar situation (see Fig 1).

### Causes of wildlife decline in Korea

After World War II, wildlife in Korea met its disaster during the period of the